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[(a) said air stream entering the apparatus in an air duct at conveying velocities and fiber-to-air mass ratios in sufficient to prevent agglomeration of the individual fiber masses being pneumatically conveyed therein;]

(a) [(b)] a revolving cleaning cylinder with [fang-type] teeth on the [its] periphery of said revolving cleaning cylinder capable of holding the [said] fiber tufts on said teeth;

(b) [(c)] an [said] air duct surrounding the air stream and controlling the fiber tufts commingled with the foreign matter, said air duct terminating adjacent the surface of said revolving cleaning cylinder [thus] to deliver the fiber tufts [said fibrous material] directly to said [the fanged] teeth of said revolving cleaning cylinder, the air stream engaging said revolving cleaning cylinder at conveying velocities and fiber-to-air mass ratios sufficient to prevent agglomeration of the individual fiber tufts being pneumatically conveyed therein;

(c) [(d)] separating means located at the terminal of said air duct at the surface of said revolving cleaning cylinder to substantially completely separate the conveying air from the desirable fiber tufts [fibrous material] as the desirable fiber tufts are [fibrous material is] substantially completely delivered onto said [the fang-type] teeth of said revolving cleaning cylinder without allowing the individual [masses of] fiber tufts to agglomerate; and

(d) [(e)] means adjacent the periphery of said revolving cleaning cylinder to cause the [said] foreign matter to be separated from the [said] fiber tufts.

2. (once amended) The improvement as defined in claim 1, wherein said separating means to separate the conveying air from the desirable fiber tufts [fibrous material] comprises a construction of said revolving cleaning cylinder wherein the air may pass between said [fang-type] teeth and flow through said revolving cleaning cylinder to a point in its rotation where the air may be exhausted from said [the] revolving cleaning cylinder.

3. (once amended) The improvement as defined in claim 2, wherein said construction of said revolving cleaning cylinder comprises spaced apart discs with [fang-type] teeth attached to the periphery of said discs [on their peripheries], said discs mounted on a common shaft spaced apart axially sufficiently to allow free air flow there between while preventing desirable fiber tufts [fibrous material] from flowing past said [the fang-type] teeth.

4. (once amended) The improvement[s] as defined in claim[s] 1 [, 2, or 3] in which said means adjacent the periphery of said revolving cleaning cylinder to cause said foreign matter to separate from the fiber tufts [said fibrous material] comprises [in part] a fixed streamer plate whose leading edge faces against the direction of rotation of said revolving cleaning cylinder and having a lower surface approximately tangent to and in close proximity to the upper surface of said revolving cleaning cylinder at said leading edge and having an upper surface joining said lower surface in an acute angle to comb back and impale said fiber firmly onto said [fang-type] teeth of the revolving cleaning cylinder.

6/5. (once amended) The improvement[s] as defined in claim[s] 1 [, 2, 3, or 4] in which said means adjacent the periphery of said revolving cleaning cylinder to cause foreign matter to separate from the fiber tufts [said fibrous material] comprises [in part] a fixed bar [or bars] with an acute angle leading edge[s] facing against the rotation of said revolving cleaning cylinder and in close proximity to the periphery thereof to cause the free ends of the fiber tufts [of fibrous material] to whip over said acute angle leading edge[s] to throw off the [said] foreign matter as the fiber tuft [fibrous material] surfaces adjacent said revolving cleaning cylinder are impaled on said [fang-type] teeth.

7/6. (once amended) The improvement[s] as defined in claim[s] 1 [, 2, 3, or 4] in which said air stream that conveys the fiber tufts [fibrous material into said fiber cleaning system] also pneumatically conveys the [fibers] fiber tufts from said revolving cleaning cylinder.

8/7. (once amended) The improvement[s] as defined in claim[s] 1 [, 2, 3, 4, 5, or 6] in which the surface of said revolving cleaning cylinder with said [fang-type] teeth moves at a velocity [as great or] greater than the velocity of said air stream pneumatically conveying the fiber tufts [said fiber masses within said fiber cleaning apparatus].

9/8. (once amended) The improvement as defined in claim 1 wherein said separating means to separate the conveying air from the desirable fiber tufts [fibrous material] comprises a perforated [transfer] cylinder that allows air flow

there through, but is resistant to desirable fiber tufts [fibrous material] penetration inwardly of its periphery which rotates proximate [runs in close proximity] to the surface of said revolving cleaning [rotating] cylinder with [fang-type] teeth, said close proximity sufficient to assure that said [fang-type] teeth carry substantially all of the desirable fiber tufts [fibrous material] away from the point of closest proximity of said perforated cylinder[s] and said revolving cleaning cylinder.

10/9. (once amended) The improvement as defined in claim ⁹~~8~~ wherein [the] said perforated [transfer] cylinder rotates in the same angular direction as said revolving cleaning cylinder with [fang-type] teeth at a surface speed that prevents agglomeration of [said] individual fiber masses that may contact the perforated [transfer] cylinder.

11/10. (once amended) The improvement as defined in claim ⁹~~8~~ [or 9] wherein said perforated [transfer] cylinder has a cylindrical outer shell with openings sufficiently large to allow air passage there-through but small enough to prevent desirable fiber tufts [fibrous material] from passing there-through.

12/11. (once amended) The improvement as defined in claim ⁹~~8~~ [or 9] in which said perforated [transfer] cylinder comprises a plurality of discs mounted on a common shaft and spaced apart axially sufficiently to allow air to pass between adjacent discs while preventing the [said] desirable fiber tufts [fibrous material] from passing there-between.

5 25. (new claim) The improvement as defined in claim 4 in which said means adjacent the periphery of said revolving cleaning cylinder to cause foreign matter to separate from the fiber tufts comprises a fixed bar adjacently following said streamer plate in the direction of rotation of said revolving cleaning cylinder with an acute angle leading edge facing against the rotation of said revolving cleaning cylinder and in close proximity to the periphery thereof to cause the free ends of the fiber tufts to whip over said acute angle leading edge to throw off the foreign matter as the fiber tuft surfaces adjacent said revolving cleaning cylinder are impaled on said teeth.

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13 26. (new claim) The improvement as defined in claim 8 wherein said air duct is substantially air tight to form a substantially air tight zone that is under sub-atmospheric pressure necessary to maintain the air velocities and air volumes needed to prevent the agglomeration of said fiber tufts, wherein:

a first side of said air duct entering said apparatus joins tightly against a substantially air tight housing substantially surrounding said perforated cylinder, said air duct additionally including an air outlet leading to an exhaust fan;

said air tight housing substantially surrounding said perforated cylinder terminates substantially proximate to said teeth on said cleaning cylinder;

said cleaning cylinder including a solid cylinder on which teeth are mounted to minimize air flow therethrough; and

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wherein a second side of said air duct entering said apparatus terminates substantially proximate to said teeth on said cleaning cylinder opposite the point of closest proximity between said cleaning cylinder and said perforated cylinder.

14 27. (new claim) The improvement as defined in claim 1 further including a substantially air tight housing around said elements, said substantially airtight housing including:

an opening for said high speed air stream to enter said housing;

an opening for the air stream carrying the cleaned fiber to exit the housing
and

means to allow the removal of said foreign matter from said housing without altering the sub-atmospheric pressure within said housing necessary to maintain the air velocities and air volumes needed to prevent the agglomeration of said fiber tufts.

15 28. (new claim) The improvement as defined in claim ¹⁴27 in which said means to allow said foreign matter to be removed from said housing includes an air stream flowing from a trash gathering hopper on said lower side of said housing combined with an adjustable air inlet opening on the upper side of said housing to bleed air into said housing to balance said air stream flowing from said trash gathering hopper.

16 29. (new claim) The improvement as defined in claim 1 further comprising a doffing cylinder;

wherein said separating means comprises a perforated cylinder for airflow therethrough;

said separating means substantially blocking the inward penetration of the desirable fiber tufts;

said separating means rotating proximate to the periphery of said doffing cylinder, the periphery of said doffing cylinder rotating proximate to the surfaces of said cleaning cylinder and said perforated cylinder;

said doffing cylinder and said cleaning cylinder rotating in the same angular direction, with said doffing cylinder being sufficiently close to said perforated cylinder and said cleaning cylinder such that substantially all of the desirable fiber tufts are transferred to said teeth of said cleaning cylinder.

In the Specification:

Please amend the Specification as follows:

On page 1, line 9, replace "opened condition" with --small tufts--.

On page 1, line 14, before the word "cylinders", insert --revolving --.

On page 2, line 4, replace the phrase "inside a mass of fibers" with --between the tufts--.

On page 2, line 21, after the word "are", insert --spaced apart--.

On page 3, line 8, replace "US" with --United States--.

On page 3, line 14, replace "USDA" with --U.S.--.

On page 3, line 17, replace "USDA" with --above U.S.--.

On page 3, line 21, replace "USDA" with --U.S.--.

On page 4, line 6, please remove the numeral "1" after the word "cylinders" and before the word "in".

On page 4, line 8, replace "USDA" with --above U.S.--.

On page 4, line 16, replace "USDA patent" with --above U.S. patents--.

On page 9, line 4, replace "are" with --is--.

On page 10, line 7, after "a" and before "radius", insert -- small --.

On page 10, line 7, please delete the phrase "of only a few thousandths of a centimeter".

On page 11, line 3, please delete the word "preferred".

On page 11, line 5, replace "patent" with --invention--.

On page 11, line 15, after "22", insert --(as shown in Fig. 3)--.

On page 13, line 15, replace "is" with --are--.

Please include the attached Abstract of the Disclosure as required by 37 C.F.R. 1.72(b).

In the Drawings:

Please amend Figure 1 to include the legend "Prior Art" (as shown in red).

Please amend Figure 3 to include the numeral "31" to identify a valve (as shown in red).